

rotten at ground-level, chiefly however, in the sap. Many beams are gone at ends, but the bridges are so closely watched, and so frequently repaired and renewed, that nowhere could we say that any exception could be taken to the condition of them as they stand at present. Many of the bridges which are considerably gone are set down for renewal in rotation, and all that require it will be renewed before long. The culverts are mostly stone, or stone walls and timber beams, and are in good condition.

Fencing is partly stone walls, but mostly post-and-wire fence, and is in very fair condition, the posts as they rot being continually renewed with old sleepers. Some of the cattle-stops are very old, but still serviceable, and some are renewed with concrete walls and ironbark beams, which is done as soon as any of them are so decayed as to be no longer safe. Gates are all in good order and kept well painted.

Station and other buildings are mostly very old, but we found them to be in good order and well kept. In some the corner-studs and covering-boards are rotten at ground-level. Privies and urinals clean and well kept.

Platforms generally very good, in some cases front boarding and front piles of same gone at ground level, but they are being renewed in concrete blocks, for which the blocks are made at Auckland. Loading-banks generally in good order, in some of them a few front piles rotten. Cattle-pens and -yards mostly in very good order, a few posts rotten at ground. Mile-posts well painted and in first-rate condition.

From Drury to Mercer

Formation We observe that the line has been diverted in several places to avoid bad curves, and in two other places land has been acquired to make similar diversions. In other places steep grades have been cut down, and the line greatly improved. Formation clean.

Permanent-way is in excellent order, abundance of scoria ballast rails, 53lb. steel, with good top and line, sleepers, mixed puriri and kauri, many of latter gone at ends, but are continually being taken out and renewed with puriri. There is a large number of kauri sleepers towards Mercer, and many of which must be renewed very soon.

Bridges are getting old, and have undergone many renewals and repairs. Some are being rebuilt, and others, which are far gone, are down on the list for renewal. One is renewed in iron girders, but generally the renewals are in ironbark, which is far safer, and even cheaper, than any New Zealand timber.

As noticed in the section Penrose to Drury, this section has many bridges in which some of the piles are much gone at ground-level, with many beams and other pieces decayed at ends, but they are closely watched, and repaired immediately they become suspicious. All of these bridges, we think, should be tarred with suitable mixtures of tar to keep rain out of cracks. They have never been tarred as there is some difference of opinion as to the utility of doing so.

Culverts are mostly stone. There are some wooden box-culverts, in good order except the exposed ends, which are repaired as they decay. Several have been replaced with concrete pipes, of which a stock is kept at Auckland.

Fencing there is not much of, but what there is is in good repair.

Cattle-stops are much the worse for their age, but are good for some years, and some have been renewed with concrete walls and ironbark beams.

The stations, though old, are in good order. In some cases we noticed ground-sills and covering-boards at corners rotten, but these are of little importance. Many of the platforms have been renewed with concrete fronts, those which still have wooden fronts are the worse for age. Loading-banks and cattle-pens in good order, though some of the posts are gone at ground-level. Privies and urinals in all cases are in good order, and clean.

Station-buildings are very well kept, though some are in want of paint. Goods-sheds in very good condition, with floors and roofs well preserved, but in a few cases sills and posts are a little decayed. Platelayers' cottages in good order. Water-tank stands in good order. Mile-posts very good.

Mercer Station has first-rate platform, with concrete front, and covered with a new verandah. The station-house is in excellent condition, clean, and neat. Goods-shed, engine-shed, coal-store, water-tank stand, pump-shed, engine, and pump, turntable all in good condition, and well cared for. Privies and urinals in good order, and clean. There are eight cottages, in very good order.

At Mercer there is a wharf at the river which is now entirely disused. The piles have all been renewed in square totara, the back lining against the earth is puriri, and in fair preservation, the decking much bruised and worn, but still good.

Mercer to Huntly.

Formation passes through many swamps, but is in very good condition, with drains and water-tables in fair order, and clear of weeds.

Permanent-way Most of this section has 40lb. rails, some of which are the worse for wear, but in general they are in good condition. The rails are being replaced with 53lb. rails as fast as time and other necessary work will allow. The road is kept in good order, and generally well ballasted, but there are places where the ballast is scanty, and sleeper-ends exposed. The ballast is sand, and is not to be compared with the scoria ballast which extends from Auckland to Mercer. Sleepers are mostly kauri, of which over 10 per cent. are rotten at ends. There has been a great quantity of them renewed in puriri, and such renewals are continually going on. We are told that the Auckland lines use twenty thousand sleepers a year for renewals, being puriri or silver-pine. This rate of renewal is therefore sufficient to insure the stability of the line as far as sleepers are concerned notwithstanding the large number of kauri sleepers rapidly decaying.

Structures Bridges are all of kauri timber, which is very unsuitable for bridges on account of rapid decay, consequently the bridges have had very extensive renewals, ironbark being substituted.